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PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Tsung-Yuan Hsu

) Examiner: Dung T. Nguyen

Appl. No : 09/829,781

) Art Unit: 2828

Filed: April 10, 2001

) )

For: "Bandwidth Enhanced Self-Injection  
Locked DFB Laser with Narrow  
Linewidth"

) Our Ref: B-3916

) 617818-6/RPB

) )

) Date: July 8, 2005

) )

) Re: ***Response***

Commissioner for Patents  
P. O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

This paper is filed in response to the official action dated April 12, 2005.

In the official action, the Examiner rejects all of the claims in this application, except for claim 6, as either allegedly being anticipated or obvious over the prior art. In particular, the Examiner cites Esman (U.S. Patent No. 5, 561,546).

With all due respect to the Examiner, why is the Examiner bothering to cite Esman '546? Esman appears to be about as relevant as Brock (U.S. Patent No. 5,781,327) which the Examiner cited in the official action dated July 29, 2004. The Applicant has already argued against that rejection in the amendment dated August 16, 2004. Therefore, why is the Examiner bothering to cite Esman now?

Esman '546 and Brock '327 interestingly use a common reference numeral for a common element, namely the optical amplifying medium 12 of Brock and the laser gain element 12 of Esman. Both patents show a ring laser with a laser gain element/amplifying medium as one of the elements in the ring.

In the official action, the Examiner characterizes element 12, shown in Figure 1 of Esman '546 as being a "laser." With all due respect to the Examiner, where is there any teaching in the '546 patent that element 12 shown in Figure 1 is a "laser" as asserted by the Examiner in the official action? The '546 patent characterizes element 12 as being a "laser gain element" which is basically the same thing as being a "optical amplifying medium" such as found with element 12 of the Brock '327 patent. Of course, lasers have optical amplifying mediums/gain elements, but they have more than just that. It is believed that people in the art know that lasers oscillate. Oscillators tend to have amplifiers, and therefore it should not be too surprising that one of the elements that makes up a laser is some sort of amplifying medium.

The Examiner is invited to look again at the paper found on the Internet which accompanied the response dated August 16, 2004. The paper apparently relates to a course taught at a university or other school about the basics of a laser. Note that it is entitled, "Three Key Elements in a Laser." The amplifying medium/gain element is but one element of a laser.

It is believed that a person skilled in the art might refer to the entirety of that which is shown in Figure 1 of Esman '546 as being a "ring laser" since once you connect the gain element in an optical feedback path, as shown, it might well oscillate. However, if the entirety of that which is shown in Figure 1 is a ring laser, for example, then its modulated light output 16(b) is hardly "a single frequency laser having a laser output for delivering laser light at frequency  $\omega_0$ " as specifically claimed by claim 1!

With respect to the propriety of referring to the entirety of that which is shown in Figure 1 as being a "ring laser," please see column 4, lines 18-28. Note that reference 10 is used to refer to the laser while reference 12 is used to refer to merely its gain element.

As indicated in the response dated August 16, 2004, the Applicant has previously requested that the Examiner comply with the rules of practice, in particular, 37 CFR 1.104(d)(2). The Examiner is now basically making the same contention he made almost a year ago that a mere optical amplifying medium, 12, such as shown in Figure 1, comprises a laser. The Examiner is obviously reaching outside the disclosure of the Esman '546 patent and therefore must be relying upon alleged "facts" within the Examiner's own knowledge. The Examiner has been specifically requested to comply with the rules of practice and to put such factual assertions into affidavit format.

The Examiner's failure to comply with the rules of practice and basically citing a new reference (Esman) which brings up again issues previously argued *vis-a-vis* Brock previously cited, the Examiner is, with all due respect, unnecessarily delaying the prosecution of this application. The Applicant has previously requested that the Examiner make the rejection final so this matter can be taken to the Board of Appeals.

The Examiner also makes some other very "interesting" assertions in the official action. For example, the Examiner asserts that modulator 14 produces two carrier suppressed side bands according to Figure 1(a) of the citation. With all due respect to the Examiner, on what possible basis does the Examiner make that assertion? Since this is a factual assertion, compliance with the rules of practice, in particular, 37 CFR 1.104(d)(2) is requested. Please provide an affidavit making the assertion so that it can be met with a countering affidavit. It is submitted that the Examiner is absolutely mistaken, since that which is shown in Figure 1(a) of Esman is anything but carrier suppressed.

It is noted that the Examiner indicated that claim 6 includes patentable subject matter. However, the Examiner's indication of allowable subject matter in claim 6 is inconsistent with the Examiner's rejection of claim 19. Claim 6 adds the limitation "one of the filters suppresses one of the two sidebands and leaves the other sideband substantially unattenuated." Claim 19, in element (d), includes the limitation, "a filter coupled to an output of the modulator for suppressing one of the two sidebands and leaving the other sideband essentially unattenuated."

Why is claim 19 being rejected on the prior art when claim 6 is identified as being allowable? This is utterly inconsistent. Moreover, how is claim 19 allegedly anticipated by the cited patent? Where is the quoted phase taught by Essman?

Turning to claim 23, another independent claim in this application, the Examiner does not explain why that claim is being rejected. Besides element 12 not being a laser in Esman, where does Esman teach, "a filter coupled to the modulator for passing or suppressing one of the two sidebands of the signal" as claimed? It would seem that Esman's filter either passes both sidebands or suppresses both sidebands as opposed to passing or suppressing one of the two sidebands.

The rejection of claim 30 is also not spelled out in any particular detail. As indicated above, element 12 is not a laser. Rather the laser in Figure 1 is the ring element 10 as Esman clearly

teaches.

Claim 30 is not anticipated by Esman, and therefore the rejection based upon Esman is improper.

Reconsideration of this application in its presently amended form is respectfully requested.

I hereby certify that this correspondence is being deposited with the United States Post Office with sufficient postage as first class mail in an envelope addressed to:  
Commissioner for Patents, Washington, D.C., 20231 on

July 8, 2005

(date of deposit)

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